

Family: FABACEAE (angiosperm)

Scientific name(s): Pterocarpus soyauxii

Pterocarpus osun

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red
 Sapwood: clearly demarcated
 Texture: coarse
 Grain: straight or interlocked
 Interlocked grain: slight
 Note: Variable buoyancy.
 Wood bright red becoming purplish brown with light.

LOG DESCRIPTION

Diameter: from 60 to 100 cm
 Thickness of sapwood: from 6 to 10 cm
 Floats: no
 Log durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,79	0,09
Monnin hardness *:	8,3	1,9
Coeff. of volumetric shrinkage:	0,44 %	0,10 %
Total tangential shrinkage (TS):	5,0 %	0,5 %
Total radial shrinkage (RS):	3,2 %	0,3 %
TS/RS ratio:	1,6	
Fiber saturation point:	21 %	
Stability: stable		

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	65 MPa	8 MPa
Static bending strength *:	116 MPa	24 MPa
Modulus of elasticity *:	15870 MPa	1885 MPa

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 148,4 measured at 2658 Hz

NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

Funghi (according to E.N. standards): class 1 - very durable

Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)

Termites (according to E.N. standards): class D - durable

Treatability (according to E.N. standards): class 2 - moderately permeable

Use class ensured by natural durability: class 4 - in ground or fresh water contact

Species covering the use class 5: Yes

Note: This species is listed in the European standard NF EN 350-2.

It naturally covers the use class 5 (end-uses in marine environment or in brackish water) only for end-uses under temperate and cold environment.

According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: does not require any preservative treatment

DRYING

Drying rate: normal to slow
 Risk of distortion: no risk or very slight risk
 Risk of casehardening: no
 Risk of checking: no risk or very slight risk
 Risk of collapse: no

Possible drying schedule: 2

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm.

It must be used in compliance with the code of practice.

For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step.

For thickness over 75 mm, a 10 % increase should be considered.

SAWING AND MACHINING

Blunting effect: fairly high
 Sawteeth recommended: stellite-tipped
 Cutting tools: tungsten carbide
 Peeling: not recommended or without interest
 Slicing: nood
 Note: Sometimes, irritant sawdust. Requires power. Sometimes, difficulties due to interlocked grain.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
 Gluing: correct
 Note: Pre-boring necessary: risks of splits especially with thin boards. Gluing requires care (dense wood).

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)
 For the "General Purpose Market":
 Possible grading for square edged timbers: choix I, choix II, choix III, choix IV
 Possible grading for short length lumbers: choix I, choix II
 Possible grading for short length rafters: choix I, choix II, choix III
 For the "Special Market":
 Possible grading for strips and small boards (ou battens): choix I, choix II, choix III
 Possible grading for rafters: choix I, choix II, choix III

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)
 Thickness < 14 mm : M.4 (easily inflammable)
 Euroclasses grading: D s2 d0
 Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Hydraulic works (seawater)	Industrial or heavy flooring
Flooring	Sliced veneer
Cabinetwork (high class furniture)	Sleepers
Bridges (parts in contact with water or ground)	Bridges (parts not in contact with water or ground)
Vehicle or container flooring	Heavy carpentry
Ship building (ribs)	Ship building (planking and deck)
Turned goods	Seats
Exterior joinery	Stairs (inside)
Interior joinery	Sculpture

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Angola	TACULA	Cameroon	MBEL
Congo	KISESE	Gabon	MBEL
Equatorial Guinea	PALO ROJO	Nigeria	OSUN
Central African Republic	PADOUK	Democratic Republic of the Congo	MONGOLA
Democratic Republic of the Congo	MUKULA	Democratic Republic of the Congo	N' GULA
Germany	PADAUK	Belgium	CORAIL
Italia	PADUK	Netherlands	PADOEK
United Kingdom	AFRICAN PADAUK	United Kingdom	BARWOOD
United Kingdom	CAMWOOD	United Kingdom	PADAUK

